UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/669,680	09/26/2000	William Scott Spangler	ARC9-2000-0079US1	4795

29154 7590 03/26/2007

FREDERICK W. GIBB, III
Gibb & Rahman, LLC
2568-A RIVA ROAD
SUITE 304
ANNAPOLIS, MD 21401

EXAMINER	
STORK, KYLE R	
ART UNIT	**PAPER NUMBER**
2178	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/669,680	SPANGLER, WILLIAM SCOTT	
	Examiner	Art Unit	
	Kyle R. Stork	2178	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8,11-15,17-23 and 26-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8,11-15,17-23 and 26-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 10.28.05
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This final office action is in response to the amendment filed 1 November 2006 and the Petition Decision of 22 January 2007.

2. Claims 8, 11-15, 17-23, and 26-29 are pending. Claims 8, 15, 20, and 23 are independent claims. Claims 1, 3-7, 10, 16, and 25 have been cancelled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 8, 11-15, 17-23, and 26-29 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Lantrip et al. (USPN 6,298,174 B1—filing date 10/15/1999), hereinafter Lantrip, further in view of Ruocco et al. (USPN 5,864,855—filing date 2/26/1996), hereinafter Ruocco.

Regarding independent claim 8, Lantrip discloses a method of clustering documents in datasets (in col. 2, lines 39-42, document vectors are arranged into clusters) comprising: clustering first documents in a first dataset to produce first document classes; (in col. 2, lines 39-42, document vectors are arranged into clusters), and creating centroid seeds based on said first document classes (in col. 2, lines 43-45, the invention finds centroids). However, Lantrip fails to disclose clustering second documents in a second dataset using said centroid seeds. However, in col. 14, lines

10-45 of Ruocco, Ruocco discloses in the claim processing in parallel second datasets based on cluster information from previous cluster vectors (see col. 14, lines 28-30) in order to gain the benefit of information from previous clusters to improve analysis of subsequent datasets. Ruocco's invention further may be interpreted such that said second dataset has a similar clustering to that of said first dataset (as the term "similar" is sufficiently broad that any two given datasets would have some degree of similarity, see 35 U.S.C. 112 rejection, above.), further wherein said second dataset comprises a new, but related dataset different than said first dataset (once the first dataset is transformed, it is by definition a new, but related dataset). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the information contained in the centroid seeds from Lantrip for subsequent datasets as in Ruocco in order to improve analysis of subsequent datasets.

Regarding dependent claim 11, Lantrip fails to disclose a method further comprising generating a second vector space model by counting, for each word in said first dictionary, a number of said second document in which said word occurs. However, Ruocco, in col. 14, lines 20-35, discloses generating such a vector space model for multiple document sets in order to aid in the clustering analysis of the document sets. It would have been obvious to one of ordinary skill in the art at the time of the invention to generate a second vector space model in the manner of Ruocco in Lantrip's invention in order to aid in the clustering analysis of the document sets.

Regarding dependent claim 12, Lantrip discloses that said creating of said centroid seeds comprises: classifying said second vector space model using said first

document classes to produce a classified second vector space model (col. 2, lines 39-42, the vector space model is clustered); and determining a mean of vectors in each class in said classified second vector space model, wherein said mean comprises said centroid seeds (col. 2, lines 43-45, the centroid is the center of mass of the clusters).

Regarding dependent claim 13, Lantrip and Ruocco fail to disclose a method further comprising forming a second dictionary of most common words in said second dataset; generating a third vector space model by counting, for each word in said second dictionary, a number of said second documents in which said word occurs; and clustering said documents in said second dataset based on said third vector space model to produce a second dataset cluster. However, this constitutes simply extending and repeating claim 3 to a third dataset, and it was notoriously well known in the art at the time of the invention that it is useful to repeat steps for multiple datasets to take advantage of their utility for subsequent data. It would have been obvious to one of ordinary skill in the art at the time of the invention to extend the steps of claim 3 to a subsequent dataset to gain the benefits of the analysis for that dataset.

Regarding dependent claim 14, Lantrip discloses in col. 2, lines 39-45 that clustering of said documents in said dataset using said centroid seeds produces an adapted dataset cluster. However, Lantrip fails to disclose the use of multiple datasets and that the method further comprises comparing classes in said adapted dataset cluster to classes in said second dataset cluster; and adding classes to said adapted dataset cluster based on said comparing. However, in col. 4, lines 61-67, Rocco deals with comparing multiple dataset clusters in order to obtain more information about the

relative status of the datasets. It would have been obvious to one of ordinary skill in the art at the time of the invention to compare multiple dataset clusters in order to obtain more information about the relative status of the datasets.

Regarding independent claim 15, it is essentially analogous to claim 1 except that it involves the steps of generating a vector space model of said second documents, which Ruocco presents in col. 14, lines 27-36, and classifying said vector space model of said second documents using said first document classes to produce a classified vector space model, which Ruocco presents in col. 14, lines 27-36. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the Ruocco form of vector space analysis in addition to the Lantrip material from the rejection of Claim 1 in order to enhance the classifications of the two datasets. The result would produce an invention that would serve to reject claim 15.

Regarding dependent claim 17, the applicant discloses the limitations substantially similar to those in claim 11. Claim 17 is similarly rejected.

Regarding dependent claim 18, the applicant discloses the limitations substantially similar to those in claim 13. Claim 18 is similarly rejected.

Regarding dependent claim 19, the applicant discloses the limitations substantially similar to those in claim 14. Claim 18 is similarly rejected.

Regarding independent claim 20, Lantrip discloses a method of clustering documents comprising: forming a first dictionary of most common words in a first dataset (col. 2, lines 30-35, Lantrip forms a first dictionary of common words); generating a first vector space model by counting, for each word in said first dictionary,

a number of said first documents in which said words occurs (col. 2, lines 35-40, Lantrip forms vectors); clustering said first documents in said first dataset based on said first vector space model to produce first document classes (col. 2, lines 39-42, Lantrip forms clusters), and determining a mean of vectors in each class in said classified second vector space model to produce centroid seeds; (col. 2, lines 43-45, Lantrip forms centroid seeds) and clustering documents in a second datasets using said centroid seeds (col. 2, lines 45-57, Lantrip clusters using centroids). Lantrip fails to disclose generating a second vector space model by counting, for each word in said first dictionary, and number of said second documents in which said word occurs and classifying said second documents in said second vector space model using said first document classes to produce a classified second vector space model. However, col. 14, lines 28-36 of Ruocco indicate that vector clustering analysis may involve multiple datasets in order to gain the benefit of information analysis from multiple sources. It would have been obvious to one of ordinary skill in the art at the time of the invention to have vector clustering analysis involve multiple datasets in order to gain the benefit of information analysis from multiple sources.

Regarding dependent claim 21, the applicant discloses the limitations substantially similar to those in claim 13. Claim 21 is similarly rejected.

Regarding dependent claim 22, the applicant discloses the limitations substantially similar to those in claim 14. Claim 22 is similarly rejected.

Regarding independent claim 23, , the applicant discloses the limitations substantially similar to those in claim 8. Claim 23 is similarly rejected.

Regarding dependent claim 26, the applicant discloses the limitations substantially similar to those in claim 11. Claim 26 is similarly rejected.

Regarding dependent claim 27, the applicant discloses the limitations substantially similar to those in claim 12. Claim 27 is similarly rejected.

Regarding dependent claim 28, the applicant discloses the limitations substantially similar to those in claim 13. Claim 28 is similarly rejected.

Regarding dependent claim 29, the applicant discloses the limitations substantially similar to those in claim 14. Claim 29 is similarly rejected.

Response to Arguments

4. Applicant's arguments filed 1 November 2006 have been fully considered but they are not persuasive.

The applicant argues that Ryocco fails to teach that the second data set has a similar, based on said centroid seeds, clustering to that of said first dataset (page 10). The examiner respectfully disagrees. Ryocco suggests clustering second documents in a second dataset using said centroid seeds, such that said second dataset has a similar clustering to that of said first dataset (pages 9-10). Although, the applicant argues that Ryocco uses the centroid seeds of the first dataset, the claim limitations require "using **said** centroid seeds (claim 8, line 15; emphasis added)." Although these centroid seeds may be used with the first document, the applicant's plain claim language restricts using a second set of centroid seeds, and instead requires the original centroid seeds be used).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle R. Stork whose telephone number is (571) 272-4130. The examiner can normally be reached on Monday-Friday (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kyle R Stork
Patent Examiner
Art Unit 2178

krs

CESAR PAULA
PRIMARY EXAMINER